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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/589,847

08/18/2006

Anja Gerhard

14113-00051-US

3553

23416 7590 01/20/2010  
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EXAMINER

WILSON, MICHAEL H

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

01/20/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/589,847 | <b>Applicant(s)</b><br>GERHARD ET AL. |  |
|                              | <b>Examiner</b><br>MICHAEL WILSON    | <b>Art Unit</b><br>1794               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 November 2009 has been entered.

### ***Response to Amendment***

2. This Office action is in response to Applicant's amendment filed 05 November 2009, which amends claims 1 and 9.

Claims 1-4 and 9-14 are pending.

3. The rejection under 35 U.S.C. 102(b) of claims 1-4 and 10-14 as being anticipated by Suzuki et al. (US 2003/0008174 A1), is overcome due to Applicant's amending of the claims in the reply filed 05 November 2009.

### ***Specification***

4. The disclosure is objected to because it lacks a brief description of the drawings. Correction is required. See MPEP § 608.01(f).

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-4 and 10-14 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for embodiments where R<sup>2</sup> is an aromatic or heteroaromatic ring with 3 to 40 carbon atoms and the compound of formulae (2) or (3) and embodiments where the compound of formulae (2) or (3) has a molecular weight of 390 g/mol or more, does not reasonably provide enablement for embodiments where R<sup>2</sup> is an aromatic or heteroaromatic ring with 1 or 2 carbon atoms or where the compound of formulae (2) or (3) has a molecular weight of around 150 g/mol. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be "commensurately enabling [regarding the scope of the claims]" *Ex Parte Kung*, 17 USPQ2d 1545, 1547 (Bd. Pat. App. Inter. 1990). Otherwise **undue experimentation** would be involved in determining how to practice and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of claims 1-4 and 10-14 can be used as claimed and whether claims 1-4 and 9-14 meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. Pat. App. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400,

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1404 (Fed.Cir. 1988). Upon applying this test to claims 1-4 and 10-14, it is believed that undue experimentation **would** be required because:

(a) *The quantity of experimentation necessary* is **great** since claims 1-4 and 10-14 read on a wide variety of compounds where  $R^2$  contains 1 or more carbon atoms and the compound has a molecular weight greater than or equal to 150 g/mol while the specification discloses only compounds where  $R^2$  has more than 6 carbon atoms and the compound has a molecular weight greater than or equal to 390 g/mol.

(b) There is **no direction or guidance presented** for compounds with less than 6 carbon atoms in  $R^2$  or a molecular weight less than 390 g/mol. The claims appear to encompass aromatic structures which are impossible given the current state of the art, specifically aromatic ring structures of 1 or 2 atoms. Compounds of formula (2) or (3) with a molecular weight around 150 g/mol also appear to be impossible.

(c) There is an **absence of working examples** concerning compounds with less than 6 carbon atoms in  $R^2$  or a molecular weight less than 390 g/mol.

While being enabled for embodiments where  $R^2$  is an aromatic or heteroaromatic ring with 3 to 40 carbon atoms and enabled for compounds of formulae (2) or (3) which have a molecular weight of 390 g/mol or more, embodiments where  $R^2$  is an aromatic or heteroaromatic ring with 1 or 2 carbon atoms and embodiments where the compound of formulae (2) or (3) has a molecular weight of around 150 g/mol do not appear to be enabled by the present specification. The claims encompass aromatic and heteroaromatic structures which are impossible given the current state of the art, for example aromatic ring structures of 1 or 2 atoms. Compounds of formula (2) or (3) with

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a molecular weight around 150 g/mol also appear to be impossible because such a compound would not be able to form three ring systems while having such a low molecular weight.

In light of the above factors, it is seen that undue experimentation would be necessary to make and use the invention of claims 1-4 and 10-14.

***Allowable Subject Matter***

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 1-4 and 10-14 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

While the closest prior art, Suzuki et al. (US 2003/0008174 A1), Kikuchi (JP 06/192654 A), and Tominaga et al. (US 2003/0168970 A1) teach compounds of similar to instant formula (2) and (3) as electron transport material used in organic electroluminescent devices, the prior art reference do not teach or suggest compounds of formulae (2) or (3) as presently claimed.

***Response to Arguments***

10. Applicant's arguments, see Remarks pages 9 and 10, filed 13 October 2009, with respect to claims 1-4 and 9-14 have been fully considered and are persuasive.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL WILSON whose telephone number is (571) 270-3882. The examiner can normally be reached on Monday-Thursday, 7:30-5:00PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1794

MHW